

Climate Change Committee

Goal

To use the Escalante River Watershed to understand the effects of climate change on species and ecosystem targets, through watershed-relevant research, information sharing, and adaptive management.

Purpose

- Assess the science, research needs and opportunities of ERWP programs with a focus on climate change and its impact on ecosystems within the Watershed.
- Advise other ERWP committees on related science issues and data gaps.
- Responsible for project specific outreach, tasks, and fundraising.



Objectives

- Determine climate research needs and questions to be pursued by the other ERWP committees.
- Identify research needs that could utilize citizen science/student researchers.
- Facilitate interagency discussion of climate related mitigation strategies involving basin-wide resources of management concern.



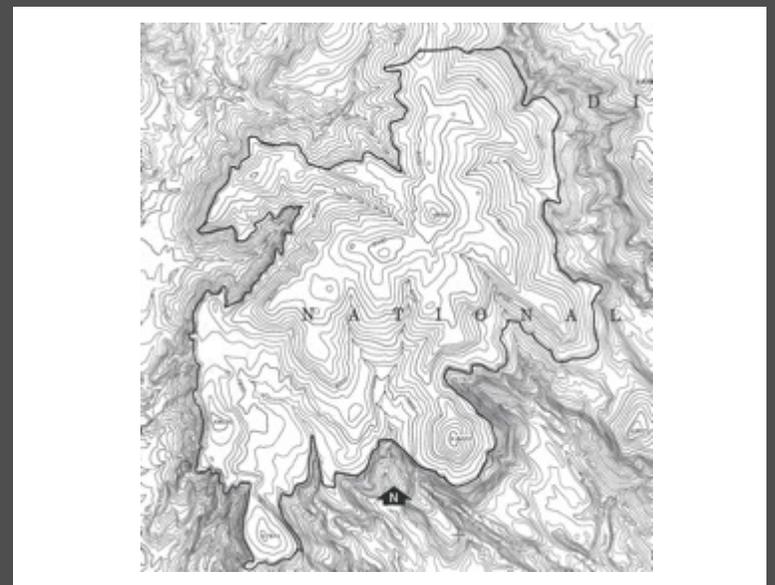
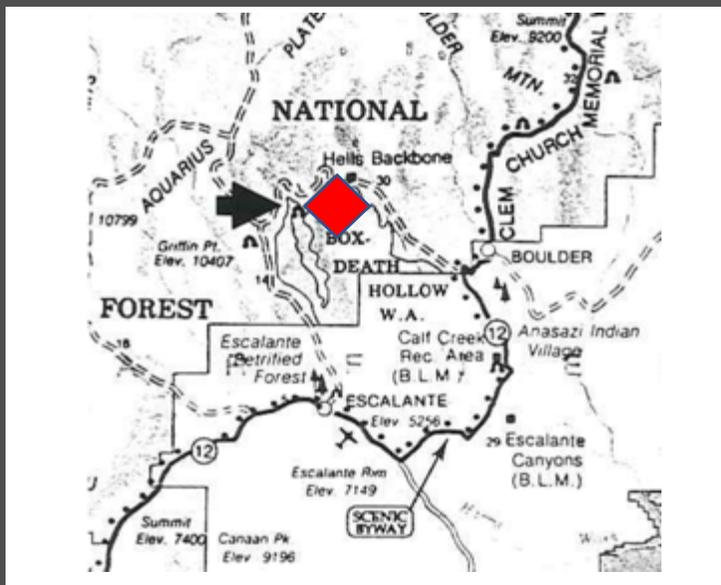
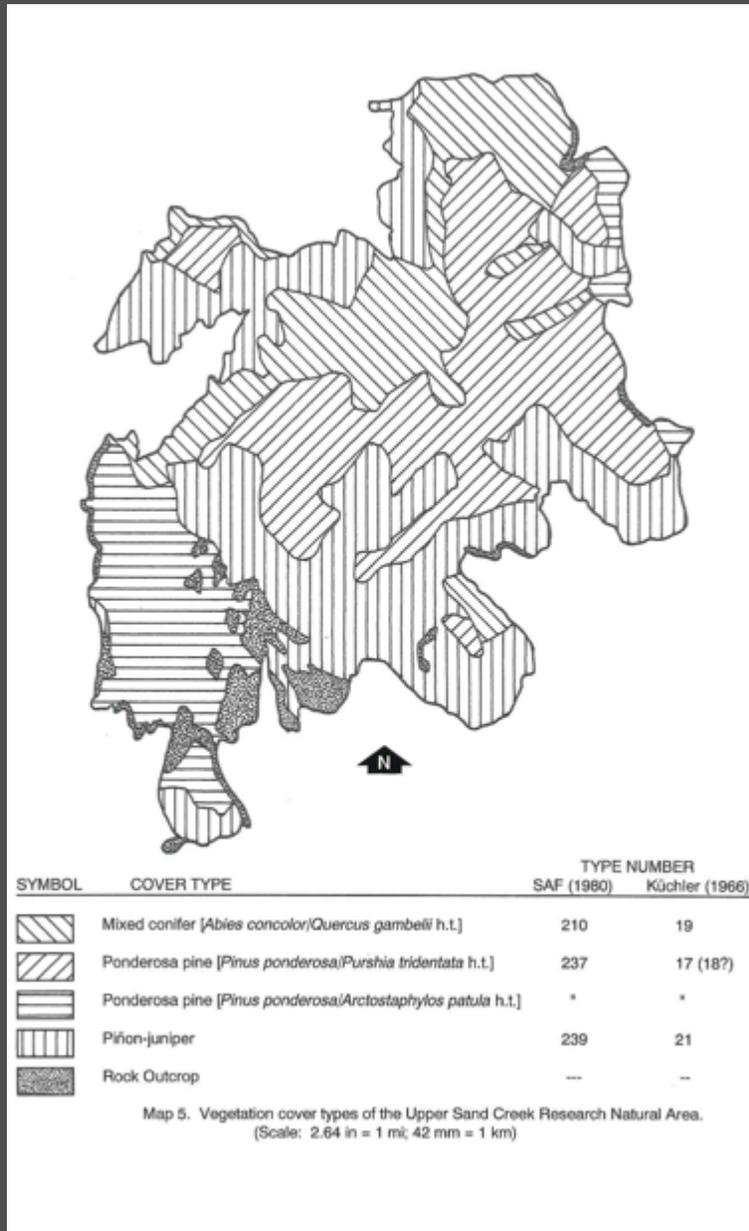
Pilot Project

Develop the **Upper Sand Creek Research Natural Area (USC-RNA)** as

(1) a reference area for evaluating ponderosa pine community health and management and

(2) as a site for long-term monitoring and research aimed at better understanding climate change impacts within the Escalante River Watershed.





Climate Change Committee Next Steps

1. Forest Service Liaison:

Coordinate with Forest Service staff on how best to utilize the USC-RNA as reference area and climate change study site.

2. Site Visit:

Coordinate a site visit for ERWP members in coordination with USFS staff and experts on climate change issues and related matters concerning ecological health of ponderosa pine communities.

3. Climate Change Assessment:

Gather information on important topics related to climate change monitoring and assessment – chiefly a literature search and compiling a list of experts that we may want to engage.

We suggest developing a digital resource library dedicated to published literature and web-based resources relevant to the project and climate change issues dealing with the Colorado Plateau / Southwest U.S. more broadly. The library could also contain rules for using USFS RNAs, including examples of how these sites have been utilized elsewhere on FS lands.

Next Steps (continued)

4. Ponderosa Pine Group:

Assemble relevant information on ecological profiles, assessment and monitoring protocols. Identify important issues connected to current management practices and longer-term concerns regarding the expected impact of climate change on ponderosa pine communities in our region.

5. Biological Diversity Documentation (Bioblitz):

Begin planning on how best to document baseline biodiversity of USC-RNA and who should be involved.

6. Infrastructure Planning:

Develop infrastructure needs to properly document and monitor key components of the ecological structure (study plots; vegetation transects; photo-points, etc.). Identify sampling and monitoring protocols, informed by data acquired in other steps (#2, 3, 4).

Next Steps (continued)

7. Geospatial Documentation:

Determine how best to utilize modern geospatial technologies and analyses to characterize important attributes (biotic and abiotic) of the USC-RNA site. This could include mapping of ecologically equivalent sites for ponderosa pine outside of the area, i.e. traditionally managed communities for which USC-RNA would serve as a true reference area.

8. Historical Ecology:

Examine the past history of the site and its response to historical variation in climate (e.g., data from tree rings on growth, long-term fire history of USC-RNA).

Develop a local tree ring chronology that can be compared to existing chronologies within our region. These records can be used to infer possible forest responses under various climate change scenarios. Valuable tree ring data from both ponderosa pine and pinyon pine are potentially available at USC-RNA (400-600 years).

Committee Members

Dennis Bramble, University of Utah (co-chair)

Sarah Bauman, GSEP (co-chair)

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